

## Crops, Soils and Fertilizers

CONDUCTED BY B. W. KILGORE,  
State Chemist North Carolina Department of Agriculture  
and Director Agricultural Experiment Station.  
Inquiries of Progressive Farmer readers cheerfully answered.

### FUNGICIDES AND SPRAYING.

#### IV.—Materials.

Editors Progressive Farmer:

The materials necessary for making the fungicides mentioned in this bulletin may usually be produced with ease. If, however, your local dealer does not handle them, they may be obtained from any wholesale drug-dealer by mail or express order. To give some ideas of the approximate price and to suggest the addresses of a few dealers from whom these chemicals can be obtained, the following quotations are given:

W. H. King, Wholesale Druggist, Raleigh, N. C.

Copper sulphate (per pound).....	.10
Copper carbonate, 5 pound lots (per pound).....	.35
Ammonia 26 (per gallon).....	\$1.00
Potassium sulphide, 10 pound cans (per pound).....	.20
Flowers of sulphur, small lots (per pound).....	.10
Flowers of sulphur, large lots (per pound).....	.06
Formaldehyde solution, 40 per cent, 5 pint bottles, each.....	1.60
Formaldehyde solution, 40 per cent, 1 pint bottles, each.....	.45
Paris green (per pound).....	.25
Pyrethrum (per pound).....	.25
Whale oil soap (per pound).....	.20
Carbonate soda (per pound).....	.05
Corrosive sublimate (per pound).....	1.25
Crude carbolic acid (per gallon).....	.40
White arsenic (per pound).....	.20
Arsenate soda (per pound).....	.30
Acetate of lead (per pound).....	.25
London purple (per pound).....	.25
Commercial caustic soda, small lots (per pound).....	.10
Commercial caustic soda, large lots (per pound).....	.08
One ounce bottle formalin.....	.10
Two ounce bottle formalin.....	.15
Four ounce bottle formalin.....	.20
Eight ounce bottle formalin.....	.30
Sixteen ounce bottle formalin.....	.50

Eimer & Amend, 205 to 211 Third Avenue, New York City.

One pound copper sulphate.....	.10
One pound carbonate.....	.35
Ten pounds copper sulphate (per pound).....	.09
One pound ammonia, 26 degrees.....	.15
Four pounds ammonia, 26 degrees, container extra (per pound).....	.12
One pound commercial caustic soda.....	.15
Ten pounds commercial caustic soda (per pound).....	.09
One pound flowers of sulphur (per pound).....	.10
Ten pounds flowers of sulphur (per pound).....	.05
One pound potassium sulphide fused.....	.30
Ten pounds potassium sulphide fused (per pound).....	.25
One pound formalin (per pound).....	.45
Ten pounds formalin (per pound).....	.40
One pound Paris green (per pound).....	.20
Ten pounds Paris green (per pound).....	.18
One pound arsenate soda (per pound).....	.15
Ten pounds arsenate soda (per pound).....	.12
One pound acetate of lead (per pound).....	.15
Ten pounds acetate of lead (per pound).....	.12
One pound London purple (per pound).....	.20
Ten pounds London purple (per pound).....	.18
One pound hellebore po (per pound).....	.25
Ten pounds hellebore po (per pound).....	.20
One pound pyrethrum (per pound).....	.40
Ten pounds pyrethrum (per pound).....	.35
One pound whale oil soap (per pound).....	.12
Ten pounds whale oil soap (per pound).....	.10
One pound commercial white arsenic (per pound).....	.15
Ten pounds commercial white arsenic (per pound).....	.10
One pound carbonate of soda—washing soda—(per pound).....	.02 1/2
One pound corrosive sublimate (per pound).....	.95
Ten pounds corrosive sublimate (per pound).....	.90
One pound crude carbolic acid.....	.10
One gallon crude carbolic acid.....	.50

Merch & Company, University Place, New York City.

Copper sulphate, pure (per pound).....	.12
Copper carbonate, pure (per pound).....	.35
Ammonia, 26 degrees (per pound).....	.09
Formaldehyde in one pound bottles.....	.35
Sodium arsenate crystal (per pound).....	.17

Arthur H. Thomas & Co., Corner Twelfth and Walnut Streets, Philadelphia, Pa.

	100 lbs.	10 lbs.
Copper sulphate.....	\$7.00	.80
Copper carbonate.....	23.00	\$2.50
Commercial caustic soda, ground.....	4.75	1.00
Potassium sulphate, ground, barrels.....	8.00	1.00
Flowers of sulphur.....	4.00	.50
Formaldehyde, 40 per cent in carboys.....	19.95	2.00
Paris green.....	25.00	3.00
Arsenate of soda.....	18.00	2.00
Acetate of lead.....	13.00	1.50
Commercial white arsenic.....	7.00	.90
Carbonate of soda.....	2.50	.30
Corrosive sublimate.....	85.00	9.00
Whale oil soap, 275 pounds.....	14.00	1.60

	Per Gal.	5 Gals.
Carbolic acid, crude straw color (barrel, 52 gallons).....	.38	2.00

### SELECTING SEED CORN.

An Important Subject Discussed by one of the Foremost Authorities in the Great Corn Belt.

Don't wait till you husk your corn before selecting your seed, but take time to do it soon. If you don't have time, take it. We don't know anything you can do on the farm that will pay you better in the long run than selecting five or ten bushels of seed corn. First make up your mind that you will not select any ears except the very best and those that mature earliest. We will not ask you to take time to go through the field when your corn is glazing to determine which are the earliest ears. You can tell that when it comes to selecting later by their soundness and dryness. It is important that we select the earliest maturing ears, because there is constant danger from the southern line of Iowa north, and even farther south than that, of corn being nipped by frost. We cannot afford to confine ourselves to the very early varieties that will mature without any doubt. We must grow something larger than that to get the best yield, and therefore the best way is to select the earliest maturing ears of varieties that occupy the full season. There is always a tendency in corn to variation, some ears maturing early and others late, and what we need is the earliest maturing ears of the big kind.

Don't select an ear from a stalk that is too tall. We don't need any thirteen or fourteen foot stalks with an ear so high up that a tall man has to jump to get it. No matter how good an ear of that kind is, let it alone. Why? If you select from these high ears you will be in the position that a good many farmers in some parts of Illinois are to-day. The season has promoted a very rank growth of stalk and the ears are very high up, and the high winds that they had there during the third week of August has laid their corn flat, from which it will never recover. Many farmers in Iowa are in the same position. The higher the ear, the more susceptible it is to being blown down by wind. Therefore reject all these ears that are high up. Reject also the ears that are too low down, and for obvious reasons. You don't want an ear that you have to stoop to husk. You don't want an ear which will rest on the ground by the time it is ready to husk. Get an ear that is just high enough for an average sized man to grasp with his hand without bending his back.

Don't select the ear that when matured stands nearly straight up, or at an angle of forty-five degrees. Why? That ear will not dry out readily;

and if it is open at the point, as it sometimes is, that is, if the ear protrudes from the husk, as it sometimes does, it will take water and be liable to mold. Therefore you don't want that ear. Don't select any ear that does not bend over by the time the corn is even partially matured. The ear that bends downward has a chance to dry out, and the reason it bends down is because of the relatively heavier weight of the corn than the shank. It is likely to have a small or medium sized cob, to be well developed, fully matured, easily dried out, when the husk will open at the point and become loose all over. We would not select an ear that does bend over if the husk was not loose at the point, for the simple reason that it is likely to be undeveloped, and even if well developed will not dry out readily, so as to be fit for seed.

When you select an ear of corn take a look at the stalk. What we need is a sort of Dutchman's stalk built Dutch fashion, draft horse fashion, something after the type of a first-class Cruickshank bull or a good feeding steer of any breed. That is, one that is robust, of great vitality, and stands up straight. Don't take an ear from a stalk that leans over when there has not been any severe storm. A very severe storm will swirl and twist even the strongest kind of corn-stalk; but when a stalk leans over, the great bulk of the stalks remaining erect, there is something wrong with that stalk, some weakness which you don't want to perpetuate. For remember that corn, as in men and animals, like produces like, and you don't want to perpetuate any defects or weaknesses if you possibly can help it.

Don't select an ear of corn, no matter how good, that is at the end of a long shank. Why? You will be harvesting your corn sometime for fodder or for silage and these long shanked ears will break off and you may have more corn broken off than you can make use of for hog feed at the time. Besides, it is worth all you can get out of them to pick them up. Therefore reject those long shanked ears.

You can wait, if you will take time to do it, until husking time to select this corn; but the probability is that you won't take the time then. Your boys want to make a record as huskers. They won't stop to pick out the seed ears and throw them into box behind the wagon. So you and they had better look after this matter beforehand. A bushel of this well selected seed corn will plant eight acres, and if you are growing eighty acres of corn next year, you will only want about eight hundred good ears, and you can certainly afford the time to pick them out, even if it takes you a week.

The best way therefore is to go through with a sack on your shoulder, examine each stalk, pick out carefully the very choicest ears, strip back the husks, tie them together, and throw them over a clothesline or pole, or any other place that will give them free access to the sun and air. Dry as your corn may seem, there is still too much water in it. The thing to do now is to get the water evaporated from the corn and cob just as quickly as possible. It will not do to put corn, no matter how apparently well matured at this stage of the growth, into a closed room. Corn requires heat, moisture, and oxygen or air in order to grow. If you put corn, even well matured corn, in a pile in a closed room or a room without free ventilation, you furnish all the requirements for growth. The first thing you know your seed corn will be utterly ruined. Some seedsmen lost quite a lot of corn last year by not understanding this simple proposition: That seed corn will grow whenever the conditions of growth are furnished.

In case cold weather threatens before the corn has thoroughly dried out, we would move it into a building at least over night, so as to protect it from sudden freezing. Take care to see that at every opportunity it has free access to sun and air, without having so much of it together as to start sprouting.

How much is this corn worth when we have it selected on these principles? It is worth more than you would dare ask anybody for it? It is worth five dollars a bushel to you, and you could well afford to pay five dollars a bushel for seed corn gathered by these methods. It means ten or fifteen bushels an acre extra yield for next year, the amount being determined largely by your skill and judgment in making the proper selecting. Farmers have grown corn during their entire lifetime, as did their fathers and grandfathers before them, but so far as selection of seed is concerned, most of us are simply learning the A, B, C's of the business.—Dr. Henry Wallace, in Wallace's Farmer.